

Ocean Observations, Modelling, Ocean Data & Information and Advisory Services

Description

The Indian National Centre for Ocean Information Centre (INCOIS) was conceived in 1999, the Ministry of Earth Sciences (MoES) Govt. of India to provide ocean information and advisory services to society, industry, government agencies and scientific community through sustained ocean observations, information management, modelling and constant improvements through systematic and focused research.

INCOIS has a vision to emerge as a knowledge and information technology enterprise for the oceanic realm with a focus on:

- Developing capability to forecast critical ocean parameters, processes and phenomena, which have significant societal, economic and environmental benefits
- Providing scientific and technical support for ecosystem-based management for sustainable use of resources.
- Defining and deploying satellite- and in situ-based ocean observing system to support forecasting and ecosystem-based management system.

Within a short time, INCOIS carved out a niche in the national scene by successfully conceptualizing and implementing:

- Potential Fishing Zone (PFZ) Mission to understand the status and trends of living resources abundance and distribution
- Early Warning System for Tsunami & Storm Surges for increasing resilience to natural hazards
- Ocean & Coastal State Forecast for enabling marine operations
- Implementation of Ocean Observing System in the Indian Ocean and initiating Ocean Modeling activities to understand the ocean's role in climate change
- Coral Reef, and Chlorophyll Mapping (ChlorOGIN Project) to monitor and assess ecosystem health
- Developing National and Regional Oceanographic Data Centre for providing Data Services
- Providing Web and Location-based Services

Further, INCOIS emerged as a key player in the Indian Ocean region as the Secretariat for the Indian Ocean Global Ocean Observing System (IOGOOS), Basin level Coordinator and Regional Data Centre for International Argo project in Indian Ocean.

Added Value

- How will GEO aid this effort, how will it impact GEO and be impacted by GEO?

INCOIS has been implementing the Ocean Observation System in the Indian Ocean. The in-situ and remote sensing observations are being effectively utilised for providing Ocean Information and Advisory Services in real time for the benefit of the society. Further, a new phase of modelling efforts was initiated focusing towards the end goal of achieving ocean predictability and enabling climate predictability mode with concomitant efforts in modelling, data assimilation and validation.

INCOIS being the implementing agency of Ocean Observing System in the Indian Ocean and also the prime mover for Ocean Modelling efforts, the programmes of INCOIS have great impact on GEO efforts towards realising its objectives. Also, every effort of GEO will have an impact on the programmes of INCOIS in providing socio-economic benefits to the end user.

Relevance to GEO

- Relevance to GEO and SBAs to transverse areas, Socio-economic value
- Contribution to 10 year plan
- GEO Work plan reference (SBA, Task, Target)

INCOIS programmes viz. Ocean Observation System, Ocean Modelling and Ocean Data has direct relevance to the GEOSS Programmes envisaged in its 10 Year Plan such as Observations and Modelling, Data Management, Interoperability and Capacity building.

INCOIS programme is related to the GEOSS 10 Year Plan particularly in the areas of Disasters (DI-06-04, DI-06-07, DI-06-08, DI-06-09), Climate (CL-06-06), Ecosystems (EC-07-01), Agriculture (AG-06-02), Data management (DA-06-04 and DA-06-05).

Participants

- List of GEO Members and Participating Organisations

Synergy and knowledge networking with national centres of excellence in ocean sciences, atmospheric sciences, space applications and information & communication technology as well as translating this scientific knowledge into useful products and services became the cornerstones of INCOIS in its pursuit for organisational excellence, national relevance and international significance.

INCOIS being playing a lead role in IOGOOS, member of POGO, IODE and OGC, it would effectively make use these programmes to expand its activities and build capacity in those areas at regional as well as global level. Further, keeping in view the responsibilities of INCOIS, we have collaboration with other major international programmes/bodies such GOOS, JCOMM/WMO, GODAE, IOCCG, IOTWS, ISPRS etc.

Current Status and Next Steps

INCOIS has been continuously providing the Ocean Information and Advisory Services viz. Potential Fishing Zone advisory services, Ocean State Forecast and Early Warnings for Tsunami and Storm Surges, implementing the Ocean Observing System (Argo, Drifting Buoys, XBT, Current Meter Moorings Arrays, Moored Buoys, Tide Gauges etc.) in the Indian Ocean and addressing the Ocean Modelling activities on a national mission.

INCOIS has plans for continuing the activities on Ocean Information and Advisory Services, Ocean Observing System and Ocean Modelling on a long term by continuously adopting the new technologies to provide ocean information advisory services timely and effective manner and also strengthening the dissemination chain.